

REMARKS

Claims 1-26 remain in the case. These claims have been revised to place them more in conventional format such as by expressing certain method steps with a present participle and eliminating use of the term "characterized in that" and internal claim numerals. The claims objections set forth in paragraphs 4 and 6 of the Office Action have been obviated by eliminating informalities and indefinite terms. Also, the missing Abstract is attached.

The Examiner states that a certified copy of the Finnish application on which priority is based has not been filed. Attached is a copy of the "Notification of Acceptance of Application Under 35 U.S.C. 371 and 37 CFR 1.494 or 1.495" mailed on 04/19/00 by the U.S. Patent and Trademark Office (PTO) which states that the Priority Document has been received.

The Examiner states that the Information Disclosure Statement fails to comply with 37 CFR 1.98(a)(2). Attached also is a copy of a receipt card stamped by the PTO on March 31, 2000 showing that six documents were received by the PTO in connection with the Information Disclosure Statement. Those six documents are the six listed on Form PTO 1449 which accompanied the Information Disclosure Statement. Also, the aforementioned "Notification of Acceptance" shows receipt by the PTO of both the International Preliminary Examination Report and the International Search Report to which reference can be made to ascertain relevance according to the international examiner of five of the six documents listed on Form PTO 1449. The sixth document is the Canadian published application No. 2,057,544 identified on page 1 of the subject application. The Examiner is requested to consider the Information Disclosure

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Statement and these six documents, initial the corresponding boxes on Form PTO 1449, and return a copy of this initialed form to applicants' attorney.

Claims 1, 6, 8-11, 13, 14, 19, 21-24, and 26 stand rejected under 35 U.S.C. § 102(e) as anticipated by the U.S. Patent to Chung et al. No. 6,359,871 ("Chung"). This rejection is respectfully traversed.

Chung has been applied by the Examiner to both of the independent claims 1 and 14; however, while there are similarities between Chung and the present claimed invention because, for example, their respective networks can be used to communicate in underground mines, Chung discloses an essentially different system. In particular, Chung does not disclose the controlling of one or more working machines from a monitoring station by teleoperation substantially in real time by a deterministic data transmission protocol in which the data transmission delay is within predetermined limits.

In Chung's network, communication is based on frames, providing for a total superframe length of 480 milliseconds (col. 8, lines 8-18), which corresponds to the delay of Chung's network. That long delay cannot be accepted in a system with real-time controlling/monitoring, and it is submitted the system in Chung is not a real-time system.

A deterministic protocol has a definite behavior and its delay can be calculated beforehand. In Chung, the base stations form a ring structure (col. 6, lines 5-13) where a master base station is a central hub and other base stations are slaves. It is not understood how this kind of system can provide a deterministic data transmission protocol as claimed. The ring structure provides only one directional data transfer

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resulting in an undefined delay. In a real-time teleoperation system, a ring structure is generally not advantageous because if a device connected to the ring is disconnected or broken, it is likely the operation of the whole ring can be disturbed or interrupted. In light of the above, it appears the data transmission protocol in Chung cannot be deterministic as defined in the subject application on page 9, lines 19-24 and required in every claim. Additionally, the system in the subject application is not based on a master-slave principle.

The Examiner refers to col. 7, lines 57-60, of Chung, contending this discloses a real-time system with a deterministic protocol. The Examiner obviously considers that compression should be used for achieving a real-time transmission. However, it is respectfully submitted this is not a correct deduction. Any kind of compression actually increases the delay because compression takes time, as discussed in the subject application on page 9, lines 21-24. Additionally, these lines in Chung refer to voice transmission which is not enough for controlling and monitoring. Chung uses time compression only to pack voice signals into short bursts.

The Examiner also refers to col. 1, lines 38-41, of Chung, but these lines describe a wired system which is used independently from the radio system for voice communication. In the subject application, controlling and monitoring takes place wirelessly. As already stated, voice transmission is not sufficient for controlling and monitoring.

The data transmission in the subject application is shown to be in the lowest layer of the protocol stack (Fig. 5), which means layers 51 and 52. This makes the protocol deterministic. If other layers were needed in the data transmission, the delays could no longer be deterministic, and the system would not be a real-time system. This

appears to be the case in Chung, resulting in a non-deterministic delay. As noted above, Chung is really of little relevance compared with the subject application because it discloses a system essentially different from what is described and claimed.

The remaining claims 6, 8-11, 13, 19, 21-24, and 26 that were rejected based on Chung alone are patentable over Chung for the reasons set forth above regarding claims 1 and 14 as well as for any novel recitations.

Claims 2, 3, 5, 7, 15, 16, 18, and 20 stand rejected under 35 U.S.C. § 103(a) based on Chung in view of the U.S. Patent to Ota No. 6,034,966. This rejection is respectfully traversed. An examination of Ota fails to uncover a solution to the shortcomings of Chung discussed above. Furthermore, assuming arguendo, that Ota discloses the structures stated by the Examiner, the Examiner has failed to show where in Ota's disclosure there is stated the suggestion or motivation for combining the two references. An applicant's disclosure cannot be used as a roadmap to uncover prior art or to establish motivation.

Claims 3, 4, 16, and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chung in view of the U.S. Patent to Green et al. No. 5,687,324 ("Green"). This rejection is respectfully traversed. An examination of Green fails to uncover a solution to the shortcomings of Chung discussed above. Furthermore, assuming arguendo, that Green discloses the structures stated by the Examiner, the Examiner has failed to show where in Green's disclosure there is stated the suggestion or motivation for combining the two references.

Claims 11, 12, 24, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chung in view of the U.S. Patent to Astrin No. 6,026,082. This

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rejection is respectfully traversed. An examination of Astrin fails to uncover a solution to the shortcomings of Chung discussed above. Furthermore, assuming arguendo, that Astrin discloses the structures stated by the Examiner, the Examiner has failed to show where in Astrin's disclosure there is stated the suggestion or motivation for combining the two references.

The method and apparatus claimed are for use in an enclosed environment. This is stated in the claims. The Examiner has not asserted that any of the secondary references teach utility in an enclosed environment, such as a mine. In view of the problems of transmission of multimedia information between a mining shaft and a monitoring station, the question arises whether the skilled artisan having the Chung reference before him would even look to any of the secondary references for aid.

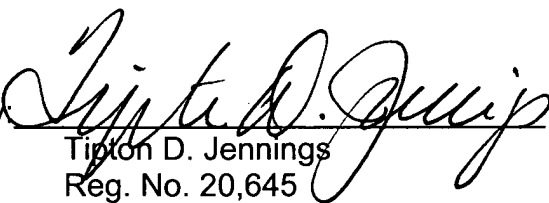
Reconsideration and allowance of claims 1-26 are earnestly solicited.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

Dated: October 28, 2003

By: 
Tipton D. Jennings
Reg. No. 20,645

Attachments: Abstract

Copy of Notification of Acceptance of Application Under 35 U.S.C.
371 and 37 CFR 1.494 or 1.495
Copy of PTO Receipt Card dated March 31, 2000

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